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EVALUATION REPORT FOR TITLE V REVISION

COMPANY NAME: IPS CORPORATION

FACILITY ID: 800367

MAILING ADDRESS: 17109 S. Main Street
Gardena, CA 90248

EQUIPMENT LOCATION: Same

EQUIPMENT DESCRIPTION:

AN 497938:

Title V revision

AN 497939:

Administrative change of equipment description:

BAGBREAK STATION, DYNAMIC AIR, STANDARD BAG BUSTER, 3'-2" W. X 3'-8" L. X 7'-2" H., WITH A **FOUR** FILTER CARTRIDGES, ~~400~~ **200** SQ. FT. TOTAL AREA, A 5 CU. FT. HOPPER, PULSE JET CLEANING, AND 2 HP. BLOWER.

AN 497940:


Administrative change of equipment description:

BAG BREAK STATION, NO. 1, DYNAMIC AIR, MODEL BAG BUSTER, SERIES 319, WITH INTEGRAL FILTER VENT, REVERSE JET AIR CLEANING, TWO CARTRIDGE FILTERS, ~~76~~ **100** SQ. FT. TOTAL AREA, AND A 1 HP. BLOWER, VENTING MIXING TANKS NO. BM-11, BM-12, BM-13, BM-14, BM-15, AND BM-16.

AN 497941:

Administrative change of equipment description:

BAG BREAK STATION, NO. 2, DYNAMIC AIR, MODEL BAG BUSTER SERIES 319, WITH INTEGRAL FILTER VENT, REVERSE JET AIR CLEANING, TWO CARTRIDGE FILTERS, ~~76~~ **100** SQ. FT. TOTAL AREA, AND A 1 HP. BLOWER, VENTING MIXING TANK NO. BM-17.

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AN 497942:

Administrative change of equipment description:

BAG BREAK STATION, NO. 3, DYNAMIC AIR, MODEL BAG BUSTER SERIES 319, WITH INTEGRAL FILTER, REVERSE JET AIR CLEANING, TWO CARTRIDGE FILTERS, ~~76~~ **100** SQ. FT. TOTAL AREA, AND A 1 HP. BLOWER, VENTING MIXING TANKS NO. BM-11 AND BM-14.

AN 497943 (Cancelled):

Change of permit condition to vent tank to regenerative thermal oxidizer instead of carbon adsorber STORAGE TANK H-1, FINISHED PRODUCT, 6'-5" DIA. X 6'-0" H., 1,400 GALLONS CAPACITY, WITH A 1 H.P. AGITATOR.

AN 497944 (Cancelled):

Change of permit condition to vent tank to regenerative thermal oxidizer instead of carbon adsorber STORAGE TANK H-2, FINISHED PRODUCT, 6'-5" DIA. X 6'-0" H., 1,400 GALLONS CAPACITY, WITH A 1 H.P. AGITATOR.

AN 497945 (Cancelled):

Change of permit condition to vent tank to regenerative thermal oxidizer instead of carbon adsorber STORAGE TANK H-3, FINISHED PRODUCT, 6'-5" DIA. X 6'-0" H., 1,400 GALLONS CAPACITY, WITH A 1 H.P. AGITATOR.

AN 497946 (Cancelled):


Change of permit condition to vent tank to regenerative thermal oxidizer instead of carbon adsorber STORAGE TANK H-4, FINISHED PRODUCT, 6'-5" DIA. X 6'-0" H., 1,400 GALLONS CAPACITY, WITH A 3 H.P. AGITATOR.

AN 497947 (Cancelled):

Change of permit condition to vent tank to regenerative thermal oxidizer instead of carbon adsorber STORAGE TANK H-5, FINISHED PRODUCT, 6'-5" DIA. X 6'-0" H., 1,400 GALLONS CAPACITY, WITH A 3 H.P. AGITATOR.

AN 497948:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-1, 6'-5" DIA. X 6'-0" H., 1,400 GALLON CAPACITY, WITH TWO AGITATORS, 50 H.P. TOTAL, AND A VAPOR CONDENSER.

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AN 497949:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-2, 6'-5" DIA. X 6'-0" H., 1,400 GALLON CAPACITY, WITH TWO AGITATORS, 50 HP. TOTAL, AND A VAPOR CONDENSER.

AN 497950:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-3, 6'-5" DIA. X 7'-0" H., 1,600 GALLON CAPACITY, WITH TWO AGITATORS, 50 HP. TOTAL, AND A VAPOR CONDENSER.

AN 497951:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-4, 6'-5" DIA. X 6'-0" H., 1,400 GALLON CAPACITY, WITH TWO AGITATORS, 50 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497952:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-5, 6'-5" DIA. X 6'-0" H., 1,400 GALLON CAPACITY, WITH TWO AGITATORS, 50 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497953:


Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-6, 6'-5" DIA. X 6'-0" H., 1,400 GALLON CAPACITY, WITH TWO AGITATORS, 50 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497954:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-7, UNHEATED, 5'-11" DIA. X 7'-7" H., 1,600 GALLON CAPACITY, WITH TWO AGITATORS, 35 H.P. EACH, AND A VAPOR CONDENSER.

AN 497955:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-8, UNHEATED, 5'-11" DIA. X 6'-8" H., 1,500 GALLON CAPACITY, WITH A 10 H.P. AGITATOR.

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AN 497956:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-9, UNHEATED, 5'-11" DIA. X 6'-8" H., 1,500 GALLON CAPACITY, WITH A 10 H.P. AGITATOR.

AN 497957:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-10, UNHEATED, 5'-11" DIA. X 6'-8" H., 1,500 GALLON CAPACITY, WITH A 10 H.P. AGITATOR.

AN 497958:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-11, UNHEATED, 6'-6" DIA. X 7'-0" H., 1,600 GALLON CAPACITY, WITH A 10 H.P. AGITATOR.

AN 497959:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER MM-12, UNHEATED, 6'-6" DIA. X 7'-0" H., 1,600 GALLON CAPACITY, WITH THREE AGITATORS, 81 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497960:


Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER BM-11, UNHEATED, 5'-4" DIA. X 5'-6" H., 800 GALLON CAPACITY, WITH THREE AGITATORS, 75 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497961:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER BM-12, UNHEATED, 5'-4" DIA. X 5'-6" H., 800 GALLON CAPACITY, WITH THREE AGITATORS, 75 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497962:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER BM-13, UNHEATED, 5'-4" DIA. X 5'-6" H., 800 GALLON CAPACITY, WITH THREE AGITATORS, 75 H.P. TOTAL, AND A VAPOR CONDENSER.

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AN 497963:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER BM-14, UNHEATED, 5'-4" DIA. X 5'-6" H., 800 GALLON CAPACITY, WITH THREE AGITATORS, 75 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497964:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER BM-15, UNHEATED, 5'-4" DIA. X 5'-6" H., 800 GALLON CAPACITY, WITH THREE AGITATORS, 75 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497965:

Change of permit condition to vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER BM-16, UNHEATED, 5'-4" DIA. X 5'-6" H., 800 GALLON CAPACITY, WITH THREE AGITATORS, 75 H.P. TOTAL, AND A VAPOR CONDENSER.


AN 497966:

Change of permit condition vent mixer to regenerative thermal oxidizer instead of carbon adsorber MIXER BM-17, 5'-4" DIA. X 5'-0" H., 600 GALLON CAPACITY, WITH THREE AGITATORS, 130 H.P. TOTAL, AND A VAPOR CONDENSER.

AN 497967:

Change of permit condition to add mixing and storage tanks vented to regenerative thermal oxidizer
AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

- 1) REGENERATIVE THERMAL OXIDIZER, ADWEST TECHNOLOGIES, MODEL 8.0 RTO95, WITH A MAXON KINEMAX 3G NATURAL GAS-FIRED BURNER, 2,295,000 BTU PER HOUR, TWO COMBUSTION CHAMBERS, 360 CU. FT. TOTAL VOLUME, TWO CERAMIC BEDS, 6'-4" W. X 8'-6" L. X 4'-0" H., AND A 7.5 HP. COMBUSTION BLOWER.
- 2) EXHAUST SYSTEM WITH 40 HP. BLOWER VENTING:
 - A) FILLING ROOM PERMANENT TOTAL ENCLOSURE (PTE), 49'-0" W. X 55'-0" L. X 23'-0" H., WITH FIVE CONTAINER FILLING STATIONS NOS. 3, 4, 21, 22, AND 23.
 - B) **TWELVE MIXING TANKS AND FIVE STORAGE TANKS.**
 - C) ~~40 H.P. BLOWER WITH A 2'-0" DIA. X 40'-0" H. EXHAUST STACK.~~

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AN 497968:

Change of permit condition to add mixing tanks vented to regenerative thermal oxidizer

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

- 1) REGENERATIVE THERMAL OXIDIZER, ADWEST TECHNOLOGIES, MODEL 6.0 RTO95, WITH A MAXON KINEMAX 3G NATURAL GAS-FIRED BURNER, 1,734,000 BTU PER HOUR, TWO COMBUSTION CHAMBERS, 250 CU. FT. TOTAL VOLUME, TWO CERAMIC BEDS, 5'-0" W. X 17'-8" L. X 2'-10" H., AND A 3 HP. COMBUSTION BLOWER.
- 2) EXHAUST SYSTEM WITH 25 HP. BLOWER VENTING:
 - A) FILLING ROOM PERMANENT TOTAL ENCLOSURE (PTE), 79'-0" W. X 29'-0" L. X 17'-0" H. OVERALL, ENCOMPASSING THREE CONTAINER FILLING STATIONS NOS. 1, 10 AND 11.
 - B) **SEVEN MIXING TANKS.**
 - C) ~~25 H.P. BLOWER WITH A 2' 4" DIA. X 25' 0" H. EXHAUST STACK.~~

AN 497969:

New construction:

STATION NO. 23, CONTAINER-FILLING, IME, MODEL 2400-12, WITH 12 NOZZLES.

AN 501717:

Change of permit condition to increase throughput limit

STATION NO. 21, CONTAINER-FILLING, IME, SERIES 2400, WITH 12 NOZZLES.

AN 501718:


Change of permit condition to increase throughput limit

STATION NO. 22, CONTAINER-FILLING, IME, SERIES 2400, WITH 12 NOZZLES.

BACKGROUND/PROCESS DESCRIPTION:

IPS Corporation manufactures and packages plastic adhesives and solvent cements. The company is under Title V program. The company's Title V permit was renewed November 14, 2008.

The company submitted the following thirty-four applications: four administrative changes, twenty-eight change of permit conditions, one new construction, and Title V facility revision. The four administrative changes are to correct the total filter area of the cartridge filters in their bag break

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stations. The company discovered that cartridge filters are larger than originally indicated on their applications. The twenty-six change of permit conditions are for twenty-four mixing and holding tanks and two regenerative thermal oxidizers (RTOs). Applications are considered change of permit conditions because there are changes in emissions. The mixing and holding tanks are currently permitted to vent to carbon adsorbers. The company wants to vent these tanks to RTOs. The carbon adsorbers will be removed from the facility as soon as mixers are vented to the RTOs. Since the oxidizers have better destruction efficiency than the carbon adsorbers, the company requests to increase their throughput limit in the mixing tanks without increasing emissions. The company is willing to accept 99% destruction efficiency for the oxidizers. Source tests have been performed for the RTO's and reports are with the District's Source Test Engineering department for evaluation. The company is adding a new container fill line that will be vented to one of the regenerative thermal oxidizers.


The company has five holding tanks currently vented to a carbon adsorber and the company submitted a change of permit condition to vent the holding tanks to a regenerative thermal oxidizer. The permit for these tanks states, "This tank shall not be operated unless it is vented to air pollution control equipment which is in full use and which has been issued a permit to operate by the executive officer." Since this condition is standard and does not explicitly state a specific air pollution control device, this condition does not have to be changed. Applications should be cancelled because there is no change in permit conditions.

The company has nineteen mixing tanks with permit condition that specifies that, "The mixing tank shall not be operated unless it is vented to a carbon adsorber which is in full use and which has been issued a permit to operate..." This condition will be changed to the standard condition, "This equipment shall not be operated unless it is vented to air pollution control equipment which is in full use and which has been issued a permit to operate by the executive officer."

EMISSION CALCULATIONS:

Operating Data:

Average operation	12 hrs/day	6 days/wk	52 wk/yr
Maximum operation	18 hrs/day	6 days/wk	52 wk/yr
Total materials processed for 13 mixers	525,000 gallons/month		
Destruction efficiency of RTO	99%		
Weight of batch	985 lbs/800 gal batch		
Percent of dry materials	18.5%		
Control efficiency of baghouse	98%		
PM emission factor	20 lb PM/ton		
Filling emission factor	0.017 lb/gal		
Total materials process for 3 fill stations	800,000 gal/mo		

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AN 497939-42:

No change in emissions; applications are considered administrative.

AN 497943-7:

No change in emissions

AN 497948-53:

No change in emissions

AN 497954-7, 497958-66:

ROG emissions:

$$E_{\text{voc}} = 12.46 * S * P * M * Q * 1/T$$

Where,

E_{voc} = total VOC loading emissions (lb/yr)

S = saturation factor = 1.0

P = vapor pressure of material loaded at temp T, psia = 3.9 psia (worse case)

M = molecular formula, lb/lbmol = 74.71 lb/lbmol

Q = volume of material loaded (1000 gal/yr) = (525,000 gal/mo)(12 mo/yr) = 6300 (1000 gal)/yr

T = temperature of liquid, °R = 534.7 °R

$$R_1 = 12.46 \times (1) \times (3.9) \times (74.71) \times (6300) \times (1/534.7) = 42,775 \text{ lbs/yr}$$

$$R_{1, \text{ hourly}} = 42,775 \text{ lb/yr} \times (\text{yr}/52 \text{ wk}) \times (\text{wk}/6 \text{ day}) \times (\text{day}/18 \text{ hr}) / 13 = 0.59 \text{ lb/hr}$$

$$R_{2, \text{ hourly}} = 0.59 \text{ lb/hr} \times (1-0.99) = 0.006 \text{ lb/hr}$$

$$R_{2, \text{ daily}} = 0.006 \text{ lb/hr} \times (18 \text{ hr/day}) = 0.11 \text{ lb/day}$$

$$R_{2, \text{ yearly}} = 0.11 \text{ lb/day} \times (6 \text{ day/wk}) \times (52 \text{ wk/yr}) = 34.3 \text{ lb/yr}$$

$$30\text{DA} = 34.3 \text{ lb/yr} \times (\text{yr}/12 \text{ mo}) \times (\text{mo}/30 \text{ day}) = 0.095 \text{ lb/day}$$

PM₁₀ emissions:

$$\text{Powder} = 525,000 \text{ gal/mo} \times (\text{batch}/800 \text{ gal}) \times (985 \text{ lb/batch}) \times 0.185 = 119,585 \text{ lb/mo}$$

$$R_1 = 119,585 \text{ lb/mo} \times (12 \text{ mo/yr}) \times (\text{ton}/2000 \text{ lb}) \times (20 \text{ lb PM/ton}) \times 0.5 = 7,175 \text{ lb/yr}$$

$$R_{1, \text{ hourly}} = 7,175 \text{ lb/yr} \times (\text{yr}/52 \text{ wk}) \times (\text{wk}/6 \text{ day}) \times (\text{day}/18 \text{ hr}) / 13 = 0.098 \text{ lb/hr}$$

$$R_{2, \text{ hourly}} = 0.098 \text{ lb/hr} \times (1-0.98) = 0.002 \text{ lb/hr}$$

$$R_{2, \text{ daily}} = 0.002 \text{ lb/hr} \times (18 \text{ hr/day}) = 0.04 \text{ lb/day}$$


$$R_{2, \text{ yearly}} = 0.04 \text{ lb/day} \times (6 \text{ day/wk}) \times (52 \text{ wk/yr}) = 12.5 \text{ lb/yr}$$

$$30\text{DA} = 12.5 \text{ lb/yr} \times (\text{yr}/12 \text{ mo}) \times (\text{mo}/30 \text{ day}) = 0.035 \text{ lb/day}$$

AN 497969, 501717-8:

$$\text{ROG} = 800,000 \text{ gal/mo} \times 0.017 \text{ lb/gal} = 13,600 \text{ lb/mo}$$

$$R_1 = 13,600 \text{ gal/mo} \times (12 \text{ mo/yr}) = 163,200 \text{ lb/yr}$$

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$$R_{1, \text{hourly}} = 163,200 \text{ lb/yr} \times (\text{yr}/52 \text{ wk}) \times (\text{wk}/6 \text{ day}) \times (\text{day}/18 \text{ hr}) / 3 = 9.7 \text{ lb/hr}$$

$$R_{2, \text{hourly}} = 9.7 \text{ lb/hr} \times (1-0.99) = 0.097 \text{ lb/hr}$$

$$R_{2, \text{daily}} = 0.097 \text{ lb/hr} \times 18 \text{ hr/day} = 1.7 \text{ lb/day}$$

$$R_{2, \text{yearly}} = 1.7 \text{ lb/day} \times (6 \text{ day/wk}) \times (52 \text{ wk/yr}) = 530 \text{ lb/yr}$$

$$30\text{DA} = 530 \text{ lb/yr} \times (\text{yr}/12 \text{ mo}) \times (\text{mo}/30 \text{ day}) = 1.5 \text{ lb/day}$$

Summary of Emissions:

AN 497954-7, 497958-66:

	Hourly Max. Emissions lb/hr	Daily Max. Emissions lb/day	Annual Max. Emissions lb/yr	30 Day Average Emissions lb/day
ROG	0.006	0.11	34	0.1
PM ₁₀	0.002	0.04	12.5	0.04

AN 497969, 501717-8

	Hourly Max. Emissions lb/hr	Daily Max. Emissions lb/day	Annual Max. Emissions lb/yr	30 Day Average Emissions lb/day
ROG	0.1	1.7	530	1.5

RULES EVALUATION:


Rule 212: Standards for Approving Permits – A public notice is triggered when the permitted equipment is within 1,000 feet of the outer boundary of a school, or the emissions exceed the daily maximum in section (g), or the MICR is greater than one in a million. Since, there are no schools within 1,000 feet, and emissions and MICR are below the limits, a Public Notice is not required.

Rule 401: Visible Emissions – No visible emissions is expected if the equipment is well maintained and properly operated. Therefore, compliance with this rule is expected.

Rule 402: Public Nuisance – Operation of this equipment is not expected to create any nuisance problem. Compliance with this rule is expected.

Rule 404: Particulate Matter – Concentration – Particulate matter emission is expected to be negligible during operation. Emissions will be less than the standard set forth in Table 404(a); therefore, compliance with this rule is expected.

Rule 405: Solid Particulate Matter – Weight – Compliance with this rule is expected since the highest calculated PM emission is 0.002 lb/hr, which is lower than the lowest allowable limit for solid particulate matter (Table 405(a) – 0.99 lb/hr).

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Rule 442: **Usage of Solvents** – This rule requires VOC emissions discharged to the atmosphere to be reduced by at least 85%. The mixing tanks, holding tanks, and filling stations are vented to a regenerative thermal oxidizer with a minimum destruction efficiency of 95%. Therefore, compliance with this rule is expected.

Reg. XIII: **New Source Review – (BACT)** – The mixing tanks, holding tanks, and filling stations are vented to a regenerative thermal oxidizer. Mixing tanks which add dry materials are also vented to a baghouse. Pieces of equipment meet BACT requirements. Therefore, compliance with this rule is achieved.

Mixer

VOC	NO _x	SO _x	CO	PM ₁₀
Carbon Adsorber; or Refrigerated Condenser; or Afterburner; or Vapor Recovery	NA	NA	NA	Baghouse if Dry Ingredients are Added

Modeling – NO_x, CO and PM₁₀ emissions are below the rule limits, therefore no further screening analysis is required.


POLLUTANT	ALLOWABLE EMISSIONS (LBS/HR)	CALCULATED EMISSIONS (LBS/HR)
NO _x	0.068	NA
CO	3.7	NA
PM ₁₀	0.41	0.01

Offsets – Offsets are not required for this facility since emissions increase are less than 0.5 pounds per day.

Application no.	Pollutant	Previous 30 Day Average Emissions lb/day	Current 30 Day Average Emissions lb/day	Change in emissions lb/day
497594-7, 58-66	ROG	1.95	1.3	-0.65
497594-7, 58-66	PM ₁₀	0.3	0.52	0.22
497969, 501717-8	ROG	4.73	4.5	-0.23

Facility's PTE

Criteria Pollutants	Allowed emissions (lb/day)	Current emissions (lb/day)	Adjusted emissions (lb/day)	New emissions (lb/day)
NO _x	22	0	0	0
ROG	22	49	-0.87	48.13
SO _x	22	0	0	0

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PM ₁₀	22	0	0.22	0.22
CO	159	0	0	0

Rule 1401: **New Source Review of Toxic Air Contaminants** – Using a conservative 25 meters to the closest receptors, filling stations passed a Tier I health risk screening. See Appendix A for calculation.

Cancer/Chronic ASI = 2.90×10^{-2}
Acute ASI = 1.78×10^{-3}

CONCLUSIONS & RECOMMENDATIONS:

Based on this evaluation, the subject equipment is expected to comply with District's rules and regulations. I recommend issuing Permits to Operate to applications for administrative changes and change of permit conditions. I recommend issuing a Permit to Construct for new installation of filling station.